



Maintain Your BMPs!

Construction Site Soil Erosion & Pollution Prevention Pocket Guide



*Go the extra
mile to protect
waterways! Keep
this pocket-sized
guide with you in
the field at
all times!*

Together... **Better Roads, Cleaner Streams**

Introduction to the Guide

This Pocket Guide serves as a companion document to the Michigan Department of Transportation (MDOT) *Soil Erosion and Sedimentation Control (SESC) Manual*. The *SESC Manual* was developed with consideration to MDOT's 2003 *Standard Specifications for Construction* and other key MDOT publications. This Pocket Guide is intended to aid the implementation and daily maintenance of Best Management Practices (BMPs) for sediment and erosion control and pollution prevention on MDOT construction sites. Please consult MDOT's *SESC Manual* for more information on each BMP and for a full list of BMPs. Because construction sites require daily inspection, this Pocket Guide also contains a site overview checklist on the back for quick reference.

Good for Highways... and the Environment

Erosion control is good for the environment and highway safety. Uncontrolled erosion during highway construction, and subsequent sedimentation, can impact streams, damage drainage structures and lands, and result in public criticism. Stabilized slopes are aesthetically pleasing, protected against erosion, and yield a smooth roadside surface, which can assist errant vehicles in regaining control.

The use of BMPs can prevent soil erosion and the resulting water pollution and sedimentation problems along highways. BMPs can also minimize the need for corrective actions during maintenance operations.

**An Ounce of Prevention
is Worth a Pound of Cure!**



ONLY RAIN IN THE DRAIN!

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Erosion FYI *1*

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Pollution Prevention

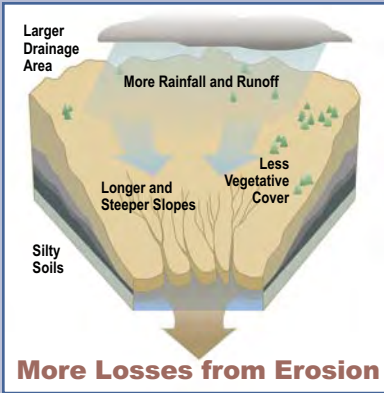
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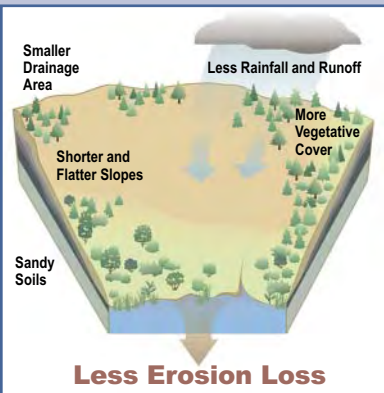
This Pocket Guide was produced by the MDOT Storm Water Management Team and its consultant, Tetra Tech. Standard details came from MDOT's SESC Manual. Photos were provided by MDOT and Tetra Tech. Erosion control illustrations were developed by Tetra Tech.

Erosion Fy1

What Contributes to Erosion?



Heavy rainfall, steep slopes, removal of most existing vegetation, and erodible soils result in higher soil losses from erosion.

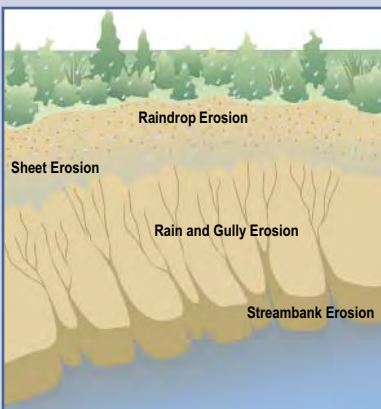


Lower rainfall amounts, flatter slopes, preserving existing vegetation, and less erodible soils result in lower soil losses from erosion.

Types of Erosion

Raindrop erosion occurs when drops hit the earth and breakdown soil structure. Slope runoff creates sheet

erosion, which can lead to the formation of small rill channels and larger gullies.

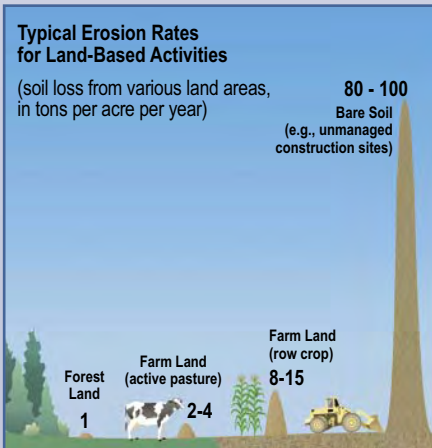


Erosion of unprotected stream banks results from removing vegetation and higher flows, which are caused by uncontrolled runoff from construction sites.

Slope Protection to Prevent Erosion

Slopes—especially long and steep slopes—must be protected to prevent sheet, rill, and gully erosion. Slopes should be stabilized within 5 days after final grading work is completed. Seeding and mulching provide the best and least expensive protection. Mulch blankets or turf reinforcement mats are needed on most slopes greater than 1:3.

Steeper slopes (1:3 or steeper) require more protection than flatter slopes. Slopes with highly erodible soils (silty soils) need more protection than those with less erodible soils (sands and gravels). Also, long slopes (greater than 50 feet) are at greater risk for erosion than short slopes.



What Contributes to Erosion?

- ☐ Removing vegetation, topsoil, and organic matter.
- ☐ Reshaping the lay of the land.
- ☐ Exposing subsoil to precipitation.
- ☐ Failure to cover bare soil areas.
- ☐ Allowing gullies to form and grow larger.

What Other Factors Affect Erosion?

- ☐ Rainfall frequency and intensity.
- ☐ Slope (steep = more; flat = less).
- ☐ Soil structure and type of soil (silty = more erosion).
- ☐ Vegetation (more vegetation = less erosion).

Controlling Sediment-Laden Runoff

- ☐ Soak it in—maximize seeding and mulching.
- ☐ Sift it out—use silt fences or other filters.
- ☐ Slow it down—don't let gullies form.
- ☐ Spread it around—break up concentrated flows.
- ☐ Settle it out—use sediment traps and basins.

E&S-3-A

Permanent/Temporary Seeding

Seeding, and the resulting vegetation, is an inexpensive but effective erosion control. Vegetation controls erosion by physically protecting bare soil from raindrop impact, flowing water, and wind. Plant roots hold soil in place. Vegetated areas allow runoff to permeate into the soil and reduce velocity and runoff volumes. Vegetated areas also reduce dust from the construction area.

Proper Installation

- ☐ Properly prepare seedbed.
- ☐ Apply seed and fertilizer according to MDOT specifications.
- ☐ Seeding must be followed by protective mulch. Place mulch within 1 day after seeding.

Inspection and Maintenance

- ☐ Maintain seedbed, correcting and reseeded washed out areas. Upland BMPs may be necessary as directed by Engineer.
- ☐ Look for patchy growth and reseed where needed.
- ☐ Look for areas where mulch has been washed or blown away and re-mulch where needed.

Tips

- ☐ Use an MDOT-approved seed mix.
- ☐ Follow seasonal limitations for specific project areas. If seeding cannot be accomplished due to the season, use a temporary erosion control until the appropriate season.
- ☐ Grasses should emerge within 4 to 28 days and legumes 5 to 28 days after seeding.
- ☐ Do not seed until spring thaw and never in the heat of the summer, per MDOT specifications.

Maintain Your BMPs!

**Inspect Temporary
Erosion Controls Daily!**



Good seeding. Mixture has minimal weeds, grass has emerged and no bare soil exists.



Poor erosion control. Seed growth is spotty, bare soil conditions enable erosion.

Additional Reference Locations

- ☐ *SESC Manual* Permanent/Temporary Seeding.
- ☐ *2003 Standard Specifications for Construction* subsections 816.03 and 917.12.

E&S-4-A *Dust Control*

Construction sites can generate large areas of soil disturbance and open space for wind to pick up dust particles. Dust can be carried offsite, thereby increasing soil loss from the construction area and increasing the likelihood of sedimentation and water pollution.

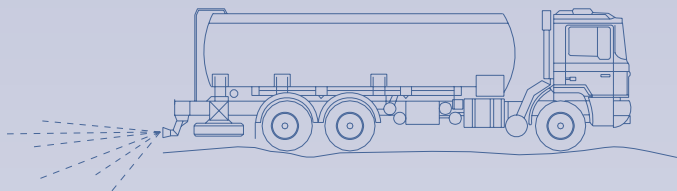
Dust control measures can include mulching, sweeping, watering, and applying calcium chloride polymers. Calcium chloride polymers inhibit vegetation, so do not apply them in areas that will be vegetated.

Proper Application

- ☐ Water should be applied to the project site until the soil is moist. Repeat as necessary.
- ☐ Avoid over-saturating the soil to minimize runoff.

Inspection and Maintenance

- ☐ Apply water to control dust as necessary.
- ☐ Dust control requires constant maintenance, especially during hot, dry weather.
- ☐ Look for areas where dust has settled on pavement. Sweep it up and dispose of it properly.



**Dust is a nagging problem on large construction sites.
Vigilant maintenance by the Contractor is required
to keep it under control.**



Good dust control. Even distribution of water, controlled application to avoid vegetated areas.



Poor dust control. Site has dust blowing from equipment travel, water application not present or inadequate.

Tips

- ☐ Check the dust control system for proper spray coverage to ensure even water distribution.
- ☐ The effectiveness of this BMP can be limited by soil, temperature, and wind speed.

Additional Reference Locations

- ☐ *SESC Manual* Dust Control.
- ☐ *2003 Standard Specifications for Construction* subsection 107.15.A.

E&S-6-A, E&S-22-A

Vegetative Buffers

Vegetated buffer strips (E&S-6-A) are used to reduce sheet flow velocities to prevent rilling and gullying. Vegetative buffers (E&S-22-A) protect waterways by filtering sediment from a construction site.

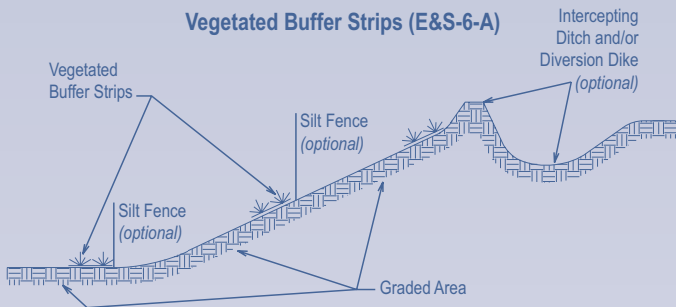
Proper Installation

- When used to reduce sheet flow velocities, buffers should be 20 feet wide and spaced 50 feet apart. An optional diversion dike may be placed at the top of the slope to prevent water from running over graded area.
- When used to filter runoff, buffer width (distance from the edge of disturbed ground to the edge of a watercourse) is at least 50 feet.
- If buffer width is inadequate, silt fence is required.

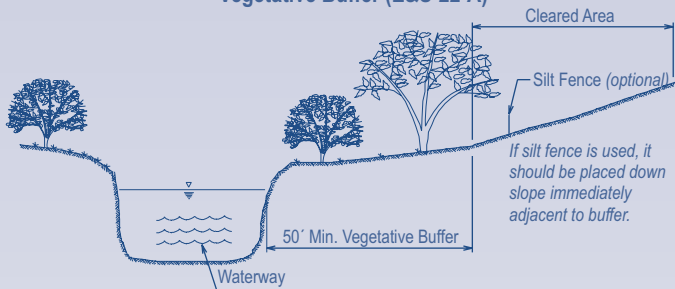
Inspection and Maintenance

- Look for areas where buffers are being impacted by construction activities. Relocate construction activities away from buffers.
- If using silt fence, remove collected sediment before it reaches halfway up the fence.
- Disturbed area upslope of the buffer should be stabilized before the buffer is removed.

Vegetated Buffer Strips (E&S-6-A)



Vegetative Buffer (E&S-22-A)





Buffer is fenced off to protect watercourse. Buffer width is inadequate and cannot be widened, so silt fence is required. Silt fence is properly installed and maintained.



Vegetative buffer is removed. Silt fence is poorly maintained. No measures are in place to keep sediment out of waterway.

Tips

- ☐ Use flagging or protective fence to remind equipment operators to stay away from the buffer.
- ☐ Silt fence and buffers work together to protect waterways.
- ☐ Preserve existing vegetation within the buffer.

Additional Reference Locations

- ☐ *SESC Manual* Vegetated Buffer Strips and Vegetative Buffer at Watercourse.
- ☐ *2003 Standard Specifications for Construction* section 917.

E&S-7-A *Riprap*

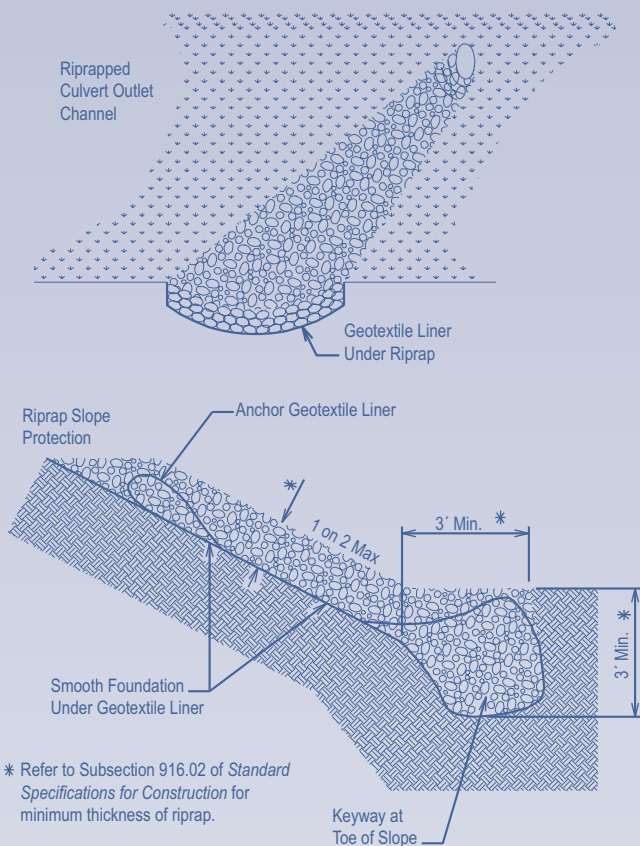
Riprap provides an effective, non-erodible cover over exposed areas. It can protect areas from erosion caused by wind, rain, and snowmelt. Riprap installed at culvert outlets can protect the stream bed and channel from erosion.

Proper Installation

- ☐ Install a geotextile liner under the riprap.
- ☐ Riprap should be natural stone, solid precast concrete blocks, or sound pieces of concrete.
- ☐ Riprap must be free of soil and visible rebar.
- ☐ When the riprap will be a permanent control, the top of the riprap should be approximately level with the surrounding soil area.

Inspection and Maintenance

- ☐ Repair washed out areas.
- ☐ If culvert end section is present, be sure silt fence is maintained in unstabilized area upslope of end section.





Good use of riprap to dissipate flow and prevent erosion at outlet. Silt fence is installed properly upslope of the culvert end sections to prevent erosion of unstabilized earth.



Poor riprap maintenance. Soil is overtopping the riprap. Silt fence is breached in multiple locations.

Tips

- ☐ Properly secure the edges of the geotextile liner to prevent the piping of runoff under the riprap.
- ☐ Use silt fence to prevent sediment from getting onto the riprap.

Additional Reference Locations

- ☐ *SESC Manual* Riprap.
- ☐ *2003 Standard Specifications for Construction* subsections 813.03.E, 916.01.C.

E&S-14-A

Gravel Access Approach

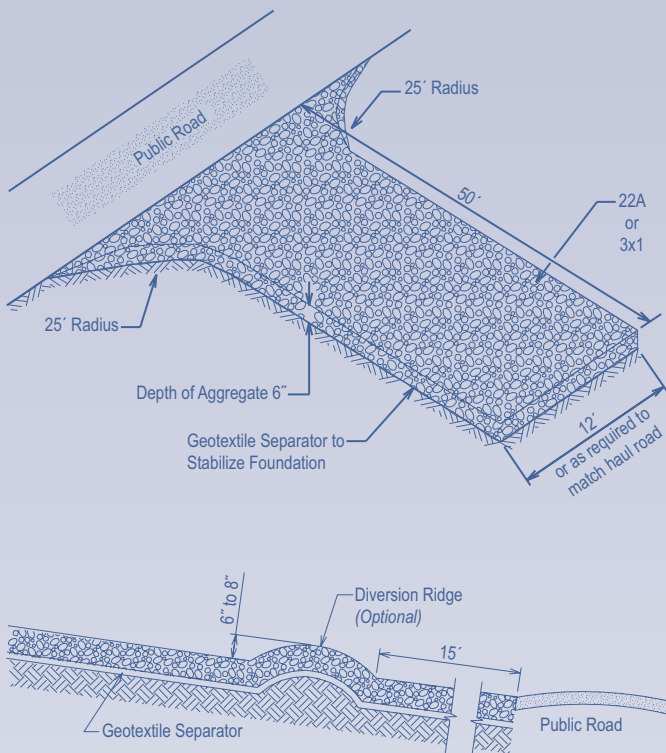
A gravel access minimizes the tracking of loose soil from the construction site onto public roadways, which in turn can be washed into the drainage system or blown away in the wind.

Proper Installation

- ❑ Geotextile separator should be placed on the ground, prior to the aggregate.
- ❑ Aggregate layer must be at least 6 inches thick.
- ❑ Gravel access should extend at least 50 feet from the edge of the roadway.
- ❑ Aggregate size and gradation should be in accordance with MDOT's *Soil Erosion and Sedimentation Control Manual*.

Inspection and Maintenance

- ❑ Install additional clean aggregate, as needed.
- ❑ Roadway sweeping should be used in conjunction with the gravel access approach.





Good gravel access approach. Approach extends at least 50 feet from roadway.



Lack of gravel access approach. Sediment is being tracked into roadway with a drainage structure nearby. Drainage structure should be protected.

Tips

- ☐ Don't forget the geotextile separator.
- ☐ Remember to keep construction access in good working condition. Sediment on roadways is a common citizen complaint.

Additional Reference Locations

- ☐ *SESC Manual* Gravel Access Approach.
- ☐ *2003 Standard Specifications for Construction* subsections 208.03.D.13, 916.01.D.5.

E&S-18-A

Dewatering with Filter Bag

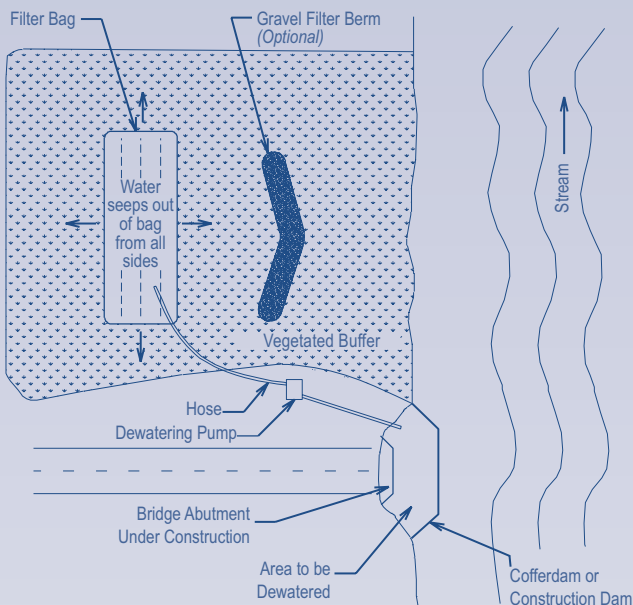
Filter bags are used to filter sediment-laden water pumped from dewatering operations, such as dewatering cofferdams and groundwater from excavated areas.

Proper Installation

- ❑ Filter bag should be located on level ground in a vegetated area.
- ❑ Filter bag should be located above watercourses.
- ❑ Filter bag should be located a sufficient distance from the watercourse or wetland to allow for proper settling or filtering through natural vegetation.
- ❑ Filter bag should be properly sized based on flow rate, with 250 square feet as a minimum.
- ❑ Gravel filter berms and sediment traps/basins can be used with a filter bag for added sediment control.
- ❑ Multiple filter bags can be used if necessary.

Inspection and Maintenance

- ❑ Inspect bag for wear, holes, or tears during pumping.
- ❑ Properly dispose of bag when full or no longer needed.
- ❑ Verify that the filter bag is filtering sediment.
- ❑ Add gravel filter berms or sediment traps/basins, as needed.





Good installation on a flat, vegetated area. Located a good distance from watercourse. Make sure gravel and berm are isolated and in good working condition, if used.



Poor installation on unlevel ground with limited vegetation.

Tips

- ☐ Direct discharges into waterways from dewatering operations are prohibited.
- ☐ Discharges into sanitary sewers from dewatering operations require permission from wastewater treatment plant owner.
- ☐ Remember to place filter bag on a flat, vegetated area.
- ☐ Size the filter bag according to flow rate.

Additional Reference Locations

- ☐ *SESC Manual* Dewatering with Filter Bag.
- ☐ *2003 Standard Specifications for Construction* subsection 208.03.D.3.

E&S-20-A Sediment Trap

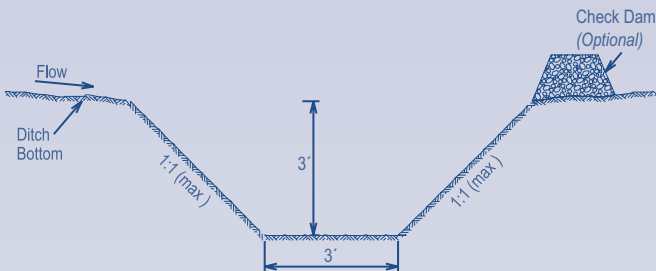
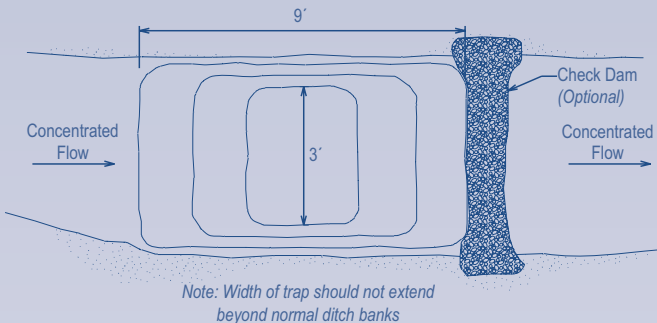
Sediment traps are used to intercept concentrated flows and prevent sediment from being transported off the construction site by allowing particles to settle, and ultimately reduce sediment pollution in nearby streams, rivers, lakes, and wetlands.

Proper Installation

- ❑ Sediment trap volume is 5 cubic yards or less.
- ❑ Trap width should be sufficient to capture all flow.
- ❑ Traps can be used in conjunction with check dams.

Inspection and Maintenance

- ❑ Remove deposited sediment when it reaches 50% of trap capacity.
- ❑ If a check dam is used, clean and maintain check dams that are clogged with sediment.
- ❑ Remove trap when area is permanently stabilized.





Good trap construction. Check dam has proper overflow notch, clearly defined trap. Proper seeding and vegetation in surrounding area. Front and back slopes 1:1 (max).



Sediment trap is not deep enough, wide enough, or long enough. Lack of vegetated buffer surrounding waterway.

Tips

- ☐ Do not rely on traps alone to control sediment loss from a construction site.
- ☐ Do not install traps in flowing waterways.
- ☐ Use a series of sediment traps for larger drainage areas.

Additional Reference Locations

- ☐ *SESC Manual* Sediment Trap.
- ☐ *2003 Standard Specifications for Construction* subsection 208.03.D.2.

E&S-26-A Silt Fence

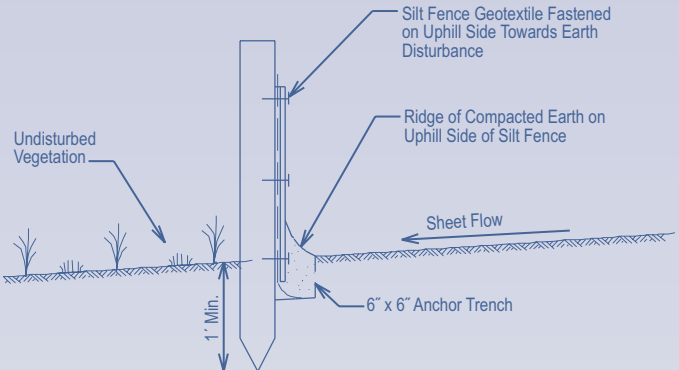
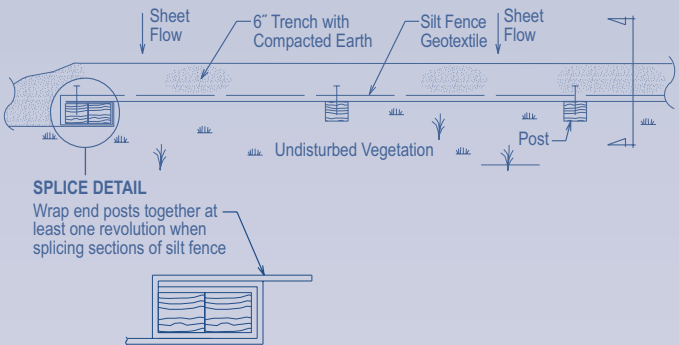
Silt fence inhibits the migration of sediment from bare soil off a construction site. It also retards the movement of sediment-laden water allowing deposition and retention of sediment.

Proper Installation

- ❑ Silt fence must be trenched in a minimum of 6 inches.
- ❑ Install stakes on the downhill side.
- ❑ Space posts a maximum of 6.5 feet apart.
- ❑ Install silt fence along the same contour line.
- ❑ Silt fence ends should be turned upslope if possible.

Inspection and Maintenance

- ❑ Look for sagging fabric or bulging from sediment buildup.
- ❑ Replace if torn or if stakes are damaged.
- ❑ Remove all sediment from behind silt fence when it reaches approximately 50% of the fence height.
- ❑ Silt fence must remain in place until the disturbed area is stabilized.
- ❑ Remove when authorized by Engineer.





Good use of silt fence with stakes installed properly. Inspect and maintain fences daily to ensure they are functioning properly.



Poor attention to silt fence maintenance. Do not pile materials on fence. Remove collected sediment before it reaches halfway up the fence.

Tips

- ☐ Seed and mulch disturbed area as soon as possible.
- ☐ Place posts on the downhill side.
- ☐ Ensure bottom of fence is completely trenched in.

Additional Reference Locations

- ☐ *SESC Manual* Silt Fence.
- ☐ *2003 Standard Specifications for Construction* subsections 208.03.D.5 and 916.02.

E&S-29-A

Inlet Protection Fabric Drop

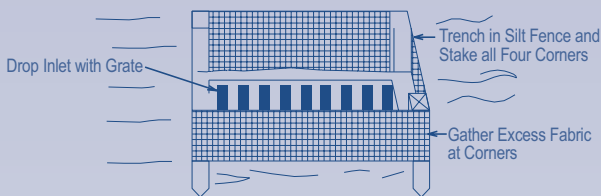
An inlet protection fabric drop is used to prevent sediment from entering a drainage structure.

Proper Installation

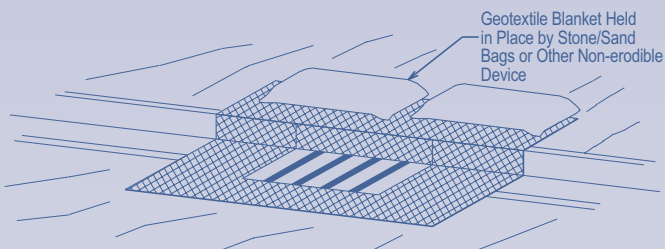
- ❑ If drainage structure is not located in the curb, install silt fence around outside of drainage structure, trenching in around entire perimeter.
- ❑ If drainage structure is located in the curb, install a nonwoven geotextile blanket between the cover and frame of the drainage structure.
- ❑ The geotextile must be trenched in or otherwise held in place behind the curb line.

Inspection and Maintenance

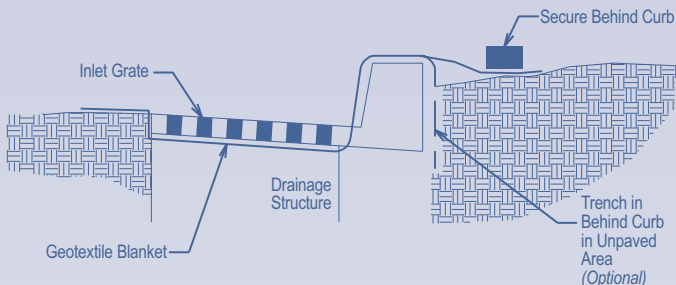
- ❑ Remove and dispose of sediment as necessary.
- ❑ Never wash sediment or other materials down inlets.
- ❑ Make sure geotextile blanket is secured behind curb.



Inlet Protection in Unpaved Area



Plan View Inlet in Curb - Paved Area Behind Curb



Cross Section Inlet in Curb - Paved or Unpaved Area Behind Curb



Good inlet protection filtering sediment-laden water prior to its entry into the drainage system. Fabric is properly secured behind the curb.



Geotextile should be anchored behind the curb.

Tips

- ☐ In unpaved areas, use gravel filter berms in a corner of the inlet when storm water enters the inlet at a high speed.
- ☐ Remove the inlet protection when construction activities are complete.

Additional Reference Locations

- ☐ *SESC Manual* Inlet Protection Fabric Drop.
- ☐ *2003 Standard Specifications for Construction* subsections 208.03.D.7 and 916.04.

E&S-30-A Inlet Protection Geotextile and Stone

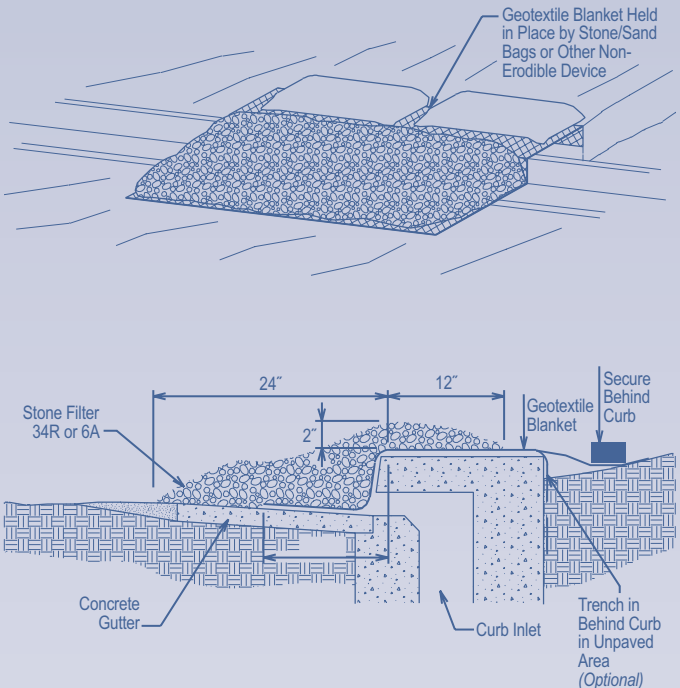
Inlet protection using geotextile and stone enables settling and filtration of sediment-laden water prior to entry into a drainage system. This method is applicable at curb inlets where ponding in front of the structure is not likely to cause a safety hazard.

Proper Installation

- Geotextile blanket is placed on top of the drainage structure casting and is covered with clean stone, 34R or 6A aggregate.
- Geotextile is secured by trenching in behind curb or with sand or stone bags.

Inspection and Maintenance

- Make sure inlet protection is not causing unsafe flooding.
- Remove trapped sediment from around the stone, as needed.
- If stones are being displaced, consider using a fabric drop, if possible.





Good application of stone or aggregate above fabric for inlet protection. Mixed stone promotes better drainage and settling of sediment.



Geotextile is improperly installed on top of the structure. Poor maintenance of fabric and stone layer.

Tips

- ☐ Secure the geotextile blanket behind the curb.
- ☐ Remove inlet protection when construction is complete.
- ☐ Remove the stone and fabric carefully to prevent loss of sediment into the inlet.

Additional Reference Locations

- ☐ *SESC Manual* Inlet Protection Fabric Drop.
- ☐ *2003 Standard Specifications for Construction* subsections 208.03.D.8 and 916.05.

E&S-33-A *Mulch Blankets*

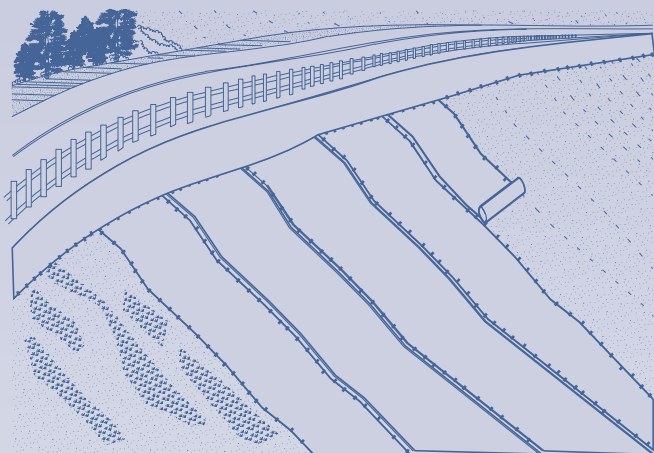
Mulching slopes and ditches minimizes erosion and promotes vegetation growth by providing immediate cover of bare soil. Mulch blankets have netting on one side. High velocity mulch blankets have netting on both sides.

Proper Installation

- ☐ Mulch blankets should be used on slopes flatter than 1:2, adjacent to shoulders, behind curbs, and in ditch bottoms with slopes up to 1.5%.
- ☐ High velocity mulch blankets should be used on 1:2 slopes or steeper and in ditch or channel bottoms.
- ☐ All mulch blankets should be trenched in at the top of the slope.
- ☐ For channels below slopes, install top blanket parallel to the roadway. Install blankets up and down the slope, perpendicular to the roadway.
- ☐ Mulch blankets should be anchored in accordance with the *Standard Specifications for Construction* and manufacturer guidelines.
- ☐ Use wood stakes. Steel pins and staples are prohibited.

Inspection and Maintenance

- ☐ Look for channels forming under mulch blanket. Repair as necessary, trenching in at top of slope.
- ☐ Re-anchor slipping mulch blanket.





Good installation and maintenance of mulch blankets. Grass is establishing properly after application. Blankets are anchored properly at the top and bottom.



Mulch blanket is not anchored properly and side edges are not overlapped. Side edge overlap should be 2 inches.

Tips

- ☐ Apply top soil, seed, and fertilizer before installing the blankets.
- ☐ Do not stretch the blankets during installation.
- ☐ Place mulch blanket within 1 day of seeding.

Additional Reference Locations

- ☐ *SESC Manual* Mulching and Mulch Anchoring, Mulch Blankets and High Velocity Mulch Blankets.
- ☐ *2003 Standard Specifications for Construction* subsections 816.03.H and 917.15.

E&S-34-A, E&S-36-A

Cofferdam & Construction Dam

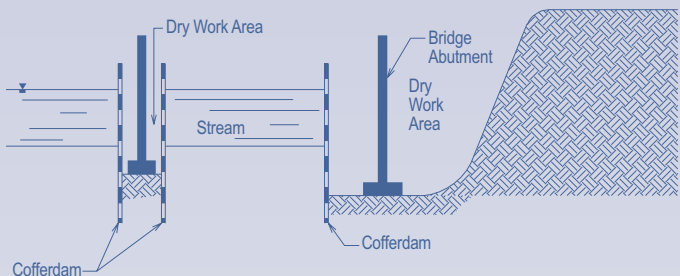
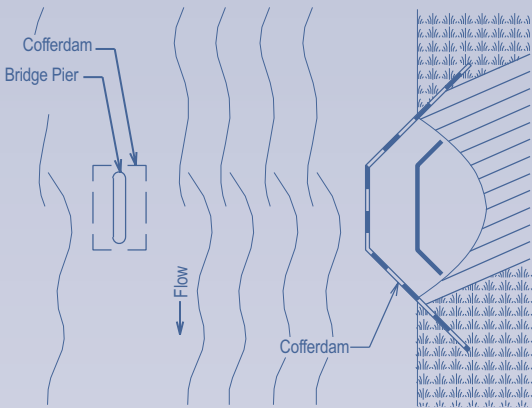
A cofferdam or construction dam is used to isolate stream flow from a construction site when dry work conditions are needed for a prolonged time.

Proper Installation

- ❑ Cofferdams are usually constructed using steel sheet pile.
- ❑ A construction dam can be made out of any non-erodible materials such as sand or stone bags. If approved by the Engineer, steel sheet piling, steel plates, or concrete barriers with a geotextile membrane can be used.

Inspection and Maintenance

- ❑ Dewater cofferdams in accordance with the *Standard Specifications for Construction* and Contract Documents.
- ❑ Remove construction dam materials, as necessary.





COFFERDAM - Good use of cofferdam with turbidity curtain. Properly dispose of excavated waste/material and sediment-laden water.



CONSTRUCTION DAM - Plastic sheeting covering berm separates water from construction area.

Tips

- ☐ Be careful when removing a construction dam to prevent sediment from entering the waterway.
- ☐ Remember to properly dispose of any excavated soil.

Additional Reference Locations

- ☐ *SESC Manual* Cofferdam and Construction Dam.
- ☐ *2003 Standard Specifications for Construction* section 704.
- ☐ Special Provisions in the contract documents.

E&S-37-A Check Dam

Check dams reduce the velocity of concentrated flows in ditches to minimize erosion and promote sediment deposition.

Proper Installation

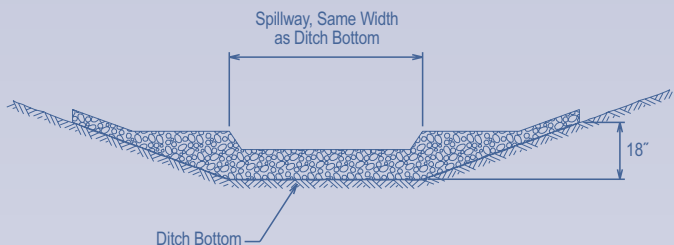
- ❑ Check dam spillway width should be approximately the same width as the ditch bottom.
- ❑ Stones should be placed up the sides of the ditch above the elevation on the spillway to prevent washouts.
- ❑ Stone size should be 2-4 inches for ditch grades less than 2% and 3-12 inches for ditch grades 2% and greater.
- ❑ Check dams should be installed downstream of sediment traps.

Inspection and Maintenance

- ❑ Remove sediment behind check dams and within sediment traps.
- ❑ Repair and maintain check dams, as needed.

Tips

- ❑ Hay or straw bales cannot be used as check dams.
- ❑ Vegetate the drainage channel if possible.
- ❑ Make sure to remove the check dam once ditch vegetation is established.
- ❑ The spillway should be notched in the center.





Stone is extended up sides of ditch to prevent washout.
Located properly on downstream end of sediment trap.
Dam has proper notch in center of spillway.



Poor installation. Dam is undersized for flow, notch is too wide and deep. Multiple check dams can be installed.

Additional Reference Locations

- ☐ *SESC Manual* Check Dam.
- ☐ *2003 Standard Specifications for Construction* subsections 208.03.D.1 and 916.01.D.1.

Concrete and Hot Mix Asphalt Diamond Grinding Disposal

Diamond grinding slurry from concrete grinding may actually be a hazardous waste due to its high pH value. While the residue can be neutralized to avoid this hazardous waste designation, it is important that proper precautions be taken during the grinding operation to prevent the release of this residue into surface waters or its exposure to storm water runoff.

Proper Procedures

- ☐ Slurry from hot mix asphalt ride quality diamond grinding is a liquid industrial waste and must be transported by a licensed liquid industrial waste hauler to a Type II municipal landfill or licensed liquid industrial waste disposal facility.
- ☐ If concrete grinding residue is to be disposed of by spreading on MDOT right-of-way, the Project Engineer's approval for the spreading/disposal method must be obtained before beginning grinding.
- ☐ The application rate must be monitored to avoid surface runoff or ponding.

Tips

- ☐ Residue must not enter an enclosed drainage system, or be spread within 5 feet from edge of curb or water-filled ditch, or within 100 feet of a waterway.
- ☐ Provide pollution prevention BMPs when working near waterways or drainage structures to keep slurry away.
- ☐ Be sure to read and understand the special provision covering this work.



Typical diamond grinding operation. Residue is being discharged away from enclosed drainage system and waterway.

Concrete Washout Facilities

Concrete washout facilities prevent concrete waste from entering storm drains and waterways.

Proper Installation

- ☐ Concrete washout facilities include an excavation pit with hay bales or silt fence installed along perimeter.
- ☐ The bottom of the excavation pit must be at least 5 feet above groundwater and lined with a synthetic liner.
- ☐ Locate the concrete washout facility at least 50 feet from waterways or storm water inlets.

Inspection and Maintenance

- ☐ Clean out the excavation pit when it is 75% full.
- ☐ Replace any damaged or missing hay bales, silt fence, or other filtering devices.
- ☐ Properly dispose of any hardened concrete.

Tips

- ☐ Do not allow concrete waste to flow into a storm drain or watercourse.
- ☐ Place a sign such as “Concrete Washout” or “Concrete Saw Water” near the concrete washout facility.
- ☐ Do not add any solvents, flocculants, or acid to the washwater.



Poor washout location, Concrete waste is not contained and has access to nearby river.

Dumpster & Solid Waste Disposal

Solid waste is non-hazardous material, such as concrete, rock, debris, soil, wood, plastic, fabric, mortar, metal scraps, and general litter. Remove and properly dispose of all solid waste, including fences, fallen timber, logs, guardrail sections, and posts, rocks, boulders, and all other rubbish. All job sites should remain orderly, free of trash, and minimize the quantity of waste generated.

Proper Installation

- ☐ Provide trash receptacles in various locations within the construction site.
- ☐ Locate dumpster on a flat, concrete surface if possible.
- ☐ Do not place trash receptacles near drainage ways, inlets, or watercourses.

Inspection and Maintenance

- ☐ Check all dumpsters for leaks weekly.
- ☐ Repair any leaks.
- ☐ Use a trash hauling contractor to empty the receptacles.
- ☐ Keep lid closed on dumpster at all times. Consider posting a sign to remind users to close lid.

Tips

- ☐ Cover dumpsters to minimize storm water contact.
- ☐ Minimize litter on construction sites.
- ☐ Do not wash out trash receptacles on construction site.
- ☐ Do not allow construction site dumpsters to be used for disposal of materials, such as household hazardous wastes, not associated with the construction project.

Additional Reference Locations

- ☐ SEMCOG BMP Handout *Dumpsters and Loading Docks*.



Lid is open and dumpster is overflowing. Trash could be picked up by storm water runoff.

Hazardous/Polluting Construction Material Disposal

In addition to oil, gasoline, and lubricants needed to operate construction equipment, many ordinary construction materials are classified as hazardous or polluting waste when leaked or spilled. These materials include solvents, paint, asphalt products, fertilizer, and concrete curing compounds.

Proper Procedures

- ❑ Storage areas for hazardous and polluting materials should have secondary containment with restricted access to prevent vandalism.
- ❑ Always follow specifications and manufacturer recommendations for the use and application rates of these materials to prevent excess materials from being picked up by storm water runoff.

Inspection and Maintenance

- ❑ Clean-up materials should be nearby including spill kits, brooms, dust pans, mops, rags, goggles, and plastic and metal trash containers.
- ❑ Storage containers should be watertight to prevent discharges to waterways and drainage structures.

Tips

- ❑ Fueling should take place in clearly identified and designated “Fueling Areas.”
- ❑ The station should be downstream of any storm drainage structure and watercourse, on level grade, and constructed on an impermeable surface.
- ❑ Barriers such as berms, sand bags, or dikes should be present to prevent storm water contact.

Additional Reference Locations

- ❑ SEMCOG BMP Handout *Dumpsters and Loading Docks*.



Covered area away from watercourse.



Materials are placed directly on soil without spill/leak protection.



Hydrodemolition Material Disposal

Hydrodemolition is a construction activity that uses high-velocity water jets to remove or demolish concrete. Hydrodemolition debris includes wet sand, aggregate, concrete chunks, and slurry water.

Proper Procedures

- ☐ Strict adherence to MDOT specifications is necessary to prevent the release of potentially polluting materials to waterways.
- ☐ Spent wastewater from hydrodemolition operations must be carefully filtered prior to being discharged.
- ☐ Ensure hydrodemolition operations do not spill into nearby waterways or drainage structures.

Tips

- ☐ Make sure suspended material from the spent wastewater is disposed of properly.
- ☐ Be sure to read and understand the special provision covering this work.



Hydrodemolition operation. Good use of berms to filter out pollutants.

Temporary Sanitary Waste Facilities

Temporary sanitary waste facilities are part of most construction sites. Wastes from these facilities must not be allowed to pollute waterways.

Proper Installation

- ❑ Locate temporary sanitary waste facilities away from drains, inlets, waterways, and areas of high traffic.

Inspection and Maintenance

- ❑ Only licensed sanitary waste haulers are allowed to clean sanitary waste facilities.

Tips

- ❑ Secure sanitary waste facilities in construction sites with high winds.
- ❑ Wastewater from sanitary facilities should not be allowed to reach drainage structures or waterways. Whenever applicable and feasible, wastewater should be connected to the sanitary sewer system.



Temporary sanitary facilities should never be located adjacent to a waterway. Secure facility on high wind sites.

Site Overview Checklist

Silt Fence

- ☐ Properly trenched
- ☐ No breaches/gaps

Inlet Protection

- ☐ Secure and intact
- ☐ Not clogged

Vegetative Buffers

- ☐ Clearly delineated
- ☐ Not damaged



Go the extra mile to protect our waterways!

Slope Stabilization

- ☐ Slopes and large areas are stabilized
- ☐ Inactive spoil piles are covered or vegetated

Check Dam

- ☐ Located to intercept flow
- ☐ Extends up side slopes

**Daily Maintenance
of Temporary
Erosion Measures
is Required!**

Sediment Trap

- ☐ Located to intercept flow
- ☐ Not filled in

Filter Bag

- ☐ Located in a flat, vegetated area, above waterway
- ☐ Intact and only partially filled

Gravel Access Approach

- ☐ Gutter pan and street are swept
- ☐ Aggregate not clogged

Administration

- ☐ Complete MDOT Form 1126
- ☐ Promptly complete Corrective Actions
- ☐ Earth Change Plan completed for work between grading limits and right of way

Report Illegal Discharges!

Call PEAS at (800) 292-4706



www.michigan.gov/stormwatermgt